

REMARKS/ARGUMENTS

The Office has taken the position that the subject matter of the present claims is anticipated or obvious in view of a patent to Kanamori (U.S. 6,335,061). On the one hand the Office asserts that Kanamori discloses a self-cleaning plastic article that includes two layers, one layer of which contains TiO₂ particles. On the other hand, the Office concedes that Kanamori "is silent on a step of adjusting the polar component of the surface energy of the cured siloxane". Applicants submit that Kanamori cannot anticipate the presently claimed invention because the cited prior art does not disclose a self cleaning plastics article made by the process recited in the present claims which forms a different self cleaning plastics article than the prior art self cleaning plastics article.

The self-cleaning plastics article of present independent Claim 23 is one that is made by the steps recited in Claim 23. One of the steps explicitly recited in Claim 23 is a step of increasing the polar component of the surface energy of a cured siloxane coating to a value of at least 10 mN/m.

Applicants have demonstrated that the step of increasing the polar component of the cured siloxane coating provides a self-cleaning plastics article that is different from articles that are obtained by processes that do not include a step of increasing a polar component. Each of Inventive Examples 1-3 on pages 29-30 of the present specification describe the production of the self-cleaning plastics article of the invention. Each of the Inventive Examples is made by a process that includes a step of increasing the polar component of a cured siloxane coating. Inventive Example 1 carries out the increasing of the polar component by treating the surface of the cured siloxane coating with a 5% KOH water/ethanol mixture (page 29, lines 7-11). Inventive Example 2 carries out the increasing in the same manner as Inventive Example 1, however a NaOH solution is used instead of a KOH solution (page 29, lines 31-32). Inventive Example 3 carries out the increasing by

corona treatment (page 30, lines 4-5). The polar component is increased in Inventive Example 1 from 5.5 mN/m to 15.3 mN/m in Inventive Example 2 the polar component is increased from 5.5 mN/m to 12.8 mN/m.

Each of coatings was subjected to a scratch resistance test and gave values of 20,000 cycles, 15,000 cycles, and 12,000 cycles for Inventive Examples 1, 2 and 3, respectively.

Applicants repeated the Inventive Examples under conditions in which the polar component of the cured siloxane coating was not increased. Comparative Example 2 shows that repeating Inventive Example 1 without increasing the polar component of the cured siloxane film provides a plastic article wherein the “flow and the adhesion of the second coating was so poor as to prevent any determination of scratch resistance” (Page 30, lines 30-32).

Applicants have thus shown that the process of producing the self-cleaning plastics article of present Claim 23 provides an article that is different from the article obtained by processes that do not increase the polar component of a cured siloxane coating.

Applicants have thus met any burden imposed by the Office with respect to demonstrating that the product-by-process limitation of the present claims defines a product that is different from a product made with a different process, such as a process that does not include a step of increasing the polar component of a layer.

As conceded by the Office, Kanamori does not disclose any article that is made by a process that includes a step of increasing the polar component of the surface energy of a cured siloxane film. Instead, at best, Kanamori discloses an article that is made by applying two different Si-containing compositions onto the surface of an article. Kanamori does not disclose or suggest that a step of increasing a polar component of a first-applied siloxane coating before applying a second coating thereto can provide an article having a coating of significantly improved scratch resistance.

Applicants thus submit that the presently claimed invention is novel and not obvious in view of Kanamori and respectfully request withdrawal of the rejection.

The Office asserts that Kanamori's adhesive layer is treated with a corona or flame (page 6, lines 9-16). Applicants submit that this is not correct. Kanamori discloses corona discharge treatment of the substrate (column 25, lines 43-49). Kanamori does not disclose corona treatming a cured siloxane film present on a substrate.

The Office's statements in this regard are therefore not correct and any rejection based upon this ground should be withdrawn.

As already mentioned above, the step of increasing the polar component of the present claims is carried out on a cured siloxane coating. The Office asserted that it would be obvious to treat (i.e., increase the polar component) of the first cured coating of Kanamori because Street (U.S. 6,743,520) discloses a process that includes modifying the surface of an adhesive layer by corona discharge (see lines 5-7 of page 6 of the Office Action of July 28, 2006). However, Street does not disclose treating a cured siloxane coating with corona discharge. The surfaces that are treated with corona discharge in Street are either the substrate surface, i.e., the surface prior to the application of any coating (column 11, lines 51-67 of Street), or the modification of the primer layer (column 12, lines 13-17). The primer layer of Street is one that is acrylate-based (see the Abstract of Street). Street does not disclose or suggest that the primer layer is made of a siloxane component.

Applicants submit that those of ordinary skill in the art would have no motivation to combine Street with Kanamori given the fact that the Street coatings are ones made of an entirely different type of material in comparison to the siloxane-based films of the presently claimed invention and the films of Kanamori.

Applicants thus submit that the combination of Street with Kanamori does not provide a *prima facie* case of obviousness of the present claims. Applicants request withdrawal of the rejections.

For the reasons discussed above in detail, Applicants submit that all now-pending claims are patentable over the prior art of record and respectfully request the mailing of a Notice of Allowance.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Stefan U. Koschmieder, Ph.D.
Registration No. 50,238

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 03/06)

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